

August 11, 2006

MEMORANDUM TO: Martin J. Virgilio  
Deputy Executive Director for Materials, Research,  
State and Compliance Programs  
Office of the Executive Director for Operations

Karen D. Cyr, General Counsel

Jack R. Strosnider, Director  
Office of Nuclear Material Safety and Safeguards

Janet R. Schlueter, Director  
Office of State and Tribal Programs

FROM: Dennis K. Rathbun, Deputy Director /RA/  
Office of State and Tribal Programs

SUBJECT: INTEGRATED MATERIALS PERFORMANCE EVALUATION  
PROGRAM (IMPEP) REVIEW OF THE OKLAHOMA RADIATION  
CONTROL PROGRAM

This memorandum transmits to the Management Review Board (MRB) a proposed final report (Enclosure 1) documenting the IMPEP review of the Oklahoma Agreement State Program. The review of the Oklahoma Program was conducted by an interoffice team during the period of June 5-8, 2006. The review team issued a draft report to Oklahoma on June 30, 2006, for factual comment. Oklahoma responded to the findings and conclusions of the review by e-mail dated August 7, 2006, from Mike Broderick, Administrator, Radiation Management Section. Based on the e-mail, Oklahoma had no comments on the draft report.

The review team is recommending that Oklahoma's performance be found "satisfactory, but needs improvement" for the performance indicator, Technical Quality of Incident and Allegation Activities, and "satisfactory" for all other performance indicators reviewed. Accordingly, the review team is recommending that the Oklahoma Agreement State Program be found adequate to protect public health and safety and compatible with NRC's program.

The Management Review Board meeting to consider the Oklahoma report is scheduled for **Wednesday, August 23, 2006, from 1:00 p.m. - 2:30 p.m., in One White Flint North, Room O-3B6**. In accordance with Management Directive 5.6, the meeting is open to the public. The agenda for that meeting is enclosed (Enclosure 2).

If you have any questions prior to the meeting, please contact me at 301-415-2325 or Mr. Aaron T. McCraw at 301-415-1277.

Enclosure: As stated

cc: Mike Broderick, Administrator  
Radiation Management Section  
Department of Environment Quality

Dennis O'Dowd, NH  
Organization of Agreement States  
Liaison to the MRB

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INTEGRATED MATERIALS PERFORMANCE EVALUATION PROGRAM  
REVIEW OF OKLAHOMA AGREEMENT STATE PROGRAM

JUNE 5-8, 2006

**PROPOSED FINAL REPORT**

U.S. Nuclear Regulatory Commission

**ENCLOSURE 1**

## 1.0 INTRODUCTION

This report presents the results of the review of the Oklahoma Agreement State Program. The review was conducted during the period of June 5-8, 2006, by a review team comprised of technical staff members from the U.S. Nuclear Regulatory Commission (NRC) and the Commonwealth of Massachusetts. Team members are identified in Appendix A. The review was conducted in accordance with the "Implementation of the Integrated Materials Performance Evaluation Program and Rescission of Final General Statement of Policy," published in the Federal Register on October 16, 1997, and the February 26, 2004, NRC Management Directive 5.6, "Integrated Materials Performance Evaluation Program (IMPEP)." Preliminary results of the review, which covered the period of April 13, 2002, to April 7, 2006, were discussed with Oklahoma management on the last day of the review.

[A paragraph on the results of the Management Review Board (MRB) meeting will be included in the final report]

The Oklahoma Agreement State Program is administered by the Radiation Management Section (the Section), located within the Land Protection Division (the Division) of the Department of Environmental Quality (the Department). An organizational chart of the Division is included as Appendix B. At the time of the review, the Oklahoma Agreement State Program regulated 246 specific licenses authorizing Agreement materials. The review focused on the materials program as it is carried out under the Section 274b. (of the Atomic Energy Act of 1954, as amended) Agreement between the NRC and the State of Oklahoma.

In preparation for the review, a questionnaire addressing the common and non-common performance indicators was sent to the Section on March 15, 2006. The Section provided its response to the questionnaire on May 31, 2006. A copy of the questionnaire response may be found on the NRC's Agencywide Documents Access and Management System (ADAMS) using the Accession Number ML061520111.

The review team's general approach for conduct of this review consisted of: (1) examination of Oklahoma's response to the questionnaire; (2) review of applicable Oklahoma statutes and regulations; (3) analysis of quantitative information from the Section's databases; (4) technical review of selected files; (5) field accompaniments of two Oklahoma inspectors; and (6) interviews with staff and management to answer questions or clarify issues. The review team evaluated the information gathered against the IMPEP performance criteria for each common and applicable non-common indicator and made a preliminary assessment of the Agreement State program's performance.

Section 2 below discusses the Program's actions in response to recommendations made during the previous review. Results of the current review for the IMPEP common performance indicators are presented in Section 3. Section 4 discusses results of the applicable non-common performance indicators, and Section 5 summarizes the review team's findings and recommendations. The recommendations made by the review team are comments that relate directly to program performance by the State. A response is requested from the State to all recommendations in the final report.

## 2.0 STATUS OF ITEMS IDENTIFIED IN PREVIOUS REVIEWS

During the previous IMPEP review, which concluded on July 19, 2002, five recommendations were made and transmitted to Mr. Steven A. Thompson, Executive Director on October 31, 2002. The team's review of the current status of these recommendations is as follows:

1. The review team recommends that the Section take appropriate measures to conduct core inspections, including initial inspections in accordance with the NRC's inspection priority system (Section 3.1 of the 2002 report).

Current status: The Section has taken appropriate measures to conduct inspections of Priority 1, 2, and 3 licensees, as well as initial inspections, in accordance with the NRC's inspection priority system. This recommendation is closed.

2. The review team recommends that the Section take appropriate measures to assure timely dispatch of inspection findings to licensees (Section 3.1 of the 2002 report).

Current status: The Section has taken appropriate measures to assure timely dispatch of inspection findings to licensees. This recommendation is closed.

3. The review team recommends that all inspections be fully documented, and that license files be complete and accurate (Section 3.2 of the 2002 report).

Current status: Lack of documentation of inspections performed and incomplete inspection documents were identified by the team. This recommendation remains open. (See Section 3.3)

4. The review team recommends that the Section conduct annual accompaniments of both new and experienced inspectors to ensure continued technical quality of inspections and to assist in the training and qualifications of new staff (Section 3.2 of the 2002 report).

Current status: The Section conducts annual accompaniments of both new and experienced inspectors to ensure continued technical quality of inspections and to assist in the training and qualifications of new staff. This recommendation is closed.

5. The review team recommends that all license terminations be terminated by a license amendment (Section 3.4 of the 2002 report).

Current status: The Section is issuing all license terminations by means of license amendments. This recommendation is closed.

## 3.0 COMMON PERFORMANCE INDICATORS

IMPEP identifies five common performance indicators to be used in reviewing both NRC Regional and Agreement State programs. These indicators include: (1) Technical Staffing and Training, (2) Status of Materials Inspection Program, (3) Technical Quality of Inspections, (4) Technical Quality of Licensing Actions, and (5) Technical Quality of Incident and Allegation Activities.

### 3.1 Technical Staffing and Training

Issues central to the evaluation of this indicator include the Section's staffing level and staff turnover, as well as the technical qualifications and training histories of the staff. To evaluate these issues, the review team examined the Section's questionnaire response relative to this indicator, interviewed Section management and staff, reviewed job descriptions and training records, and considered any possible workload backlogs.

The Section is managed by the Environmental Program Administrator (the Administrator) and has 10 technical staff positions, including the Administrator and one technical supervisor. The technical staff are divided evenly between the Compliance Unit and the Inspection Unit.

The Section lost six employees during the review period. The Section filled these vacant positions in a timely manner. There were no overdue core inspections at the time of this review, however a backlog of licensing actions has accumulated. There were 22 renewals pending for greater than one year. The review team noted that the large number of vacancies has made licensing efforts difficult on the Section. The review team did not find any safety-significant impacts on the licensee's programs due to the length of pending renewals. There are currently no vacant positions in the program. For clarification on the organizational chart provided by the program, which can be found in Appendix B, the two vacant positions that are shown are not funded and are not planned to be filled by the program. The positions were never intended to be utilized for AEA materials efforts.

The Section has a documented training plan that is consistent with the guidance in the NRC/Organization of Agreement States Training Working Group Report and NRC's Inspection Manual Chapter (MC) 1246. They also have on-the-job training to supplement the course work so that individuals may broaden their work areas. New staff members are assigned increasingly complex licensing duties and accompany more experienced inspectors during increasingly complicated inspections under the direction of the supervisor. Inspectors are assigned independent inspections after demonstrating competence during accompaniment evaluations by the supervisor. The team confirmed that the new staff are in the process of gaining qualifications at an appropriate pace. Four staff members, including the supervisor, attended the NRC Security Systems and Principles Course.

The Section works with the Radiation Management Advisory Council (the Council), a body formed in statute, consisting of representatives of members of the public, environmental groups, radioactive material licensees and others. The representatives are appointed by the Governor and legislative leaders. The Council serves as an advisory council and does not provide direction to the program and does not approve rulemaking. The Council serves as a structured way for the Section to interact with licensees and affected parties, with the main function being the ability to recommend proposed rules to the Environmental Quality Board (the Board). The Board gains the Section's recommendations on approval for rulemaking, approves rulemaking, and appoints the Executive Director of the Department.

Based on the IMPEP evaluation criteria, the review team recommends that Oklahoma's performance with respect to the indicator, Technical Staffing and Training, be found satisfactory.

### 3.2 Status of Materials Inspection Program

The review team focused on five factors while reviewing this indicator: inspection frequency, overdue inspections, initial inspections of new licenses, timely dispatch of inspection findings to the licensees, and the performance of reciprocity inspections. The review team's evaluation was based on the Section's questionnaire response relative to this indicator, data gathered from the Section's databases, examination of completed inspection casework, and interviews with management and staff. The team verified that the Section's inspection frequencies are equivalent to those listed in MC 2800.

The Section maintains multiple databases which are used to identify relevant inspection information, including inspection due dates for licensees. The databases generally contain sufficient information for proper management of the inspection program. However, during the course of the IMPEP Review, it became apparent to both the review team and the Section that the ability to obtain necessary data from the databases is difficult in some instances. Prior to the IMPEP Review, the Section had initiated the development of a comprehensive single database to improve inspection planning, tracking, and efficiency. The review team believes that the development of a such a database should alleviate these difficulties. The team determined that during the review period, the Section conducted 10 of 174 Priority 1, 2, and 3 inspections overdue by more than 25 percent of the inspection frequency listed in MC 2800. Forty-one initial inspections were performed during the review period, 10 of which were conducted overdue. There were no overdue Priority 1, 2, and 3 or initial inspections at the time of the review. The percentage of overdue inspections conducted by the Section during the review period was approximately 9 percent.

The review team evaluated the Section's timeliness in providing inspection findings to licensees. The review team determined that, during the review period, the average time for the issuance of inspection findings was approximately 30 days. The Section's goal for issuance of inspection findings is 30 days. At the time of the last IMPEP Review, the average time for the issuance of inspection findings was 63 days. During the on-site review, the Administrator indicated that the Section will begin authorizing experienced inspectors to issue the Oklahoma equivalent of the NRC's Form 591 at the end inspections where no violations are identified. The Section anticipates that this new process will further improve the timeliness of the issuance of inspections findings to the licensees.

During the review period, the Section granted 100 reciprocity permits, 41 of which were candidate licensees based upon the criteria in MC 1220. The review team determined that the Section met and/or exceeded NRC's criteria of inspecting 20 percent of candidate licensees operating under reciprocity in each of the 4 years covered by the review period.

The review team determined that with respect to Commission Staff Requirements Memorandum (SRM) for COMSECY-05-0028, on increased controls, the Program has started to plan for the initial set of inspections of these licensees in accordance with the increased control requirements. The review team evaluated the Section's prioritization methodology and found it acceptable.

Based on the IMPEP evaluation criteria, the review team recommends that Oklahoma's performance with respect to the indicator, Status of Materials Inspection Program, be found satisfactory.

### 3.3 Technical Quality of Inspections

The review team evaluated the inspection reports, enforcement documentation, inspection field notes and interviewed inspectors for 14 radioactive materials inspections conducted during the review period. The casework reviewed included inspections conducted by five Section inspectors, and covered inspections of various types including gamma stereotactic radiosurgery (gamma knife), medical private practice, fixed and portable gauges, industrial radiography, well logging, academic broad scope, nuclear pharmacy, manufacturing and distribution, and research and development. Appendix C lists the inspection casework files reviewed, with case-specific comments, as well as the results of the inspector accompaniments.

Based on the evaluation of casework, the review team noted that inspections covered all aspects of licensed radiation programs. The review team found that inspection reports were generally thorough, complete, consistent, and of high quality, with sufficient documentation to ensure that licensees' performance with respect to health and safety was acceptable. The documentation supported violations, recommendations made to licensees, unresolved safety issues, and discussions held with licensees during exit interviews.

The Section, in conjunction with the Department's Central Records, maintains two files related to inspections. One file is intended to include originals of all license documentation, including inspections. The other file is called the Inspector's File and is intended to include duplicated inspection documents for the inspector to take into the field on inspections. Each file is identified by license number. In 2 of the 14 cases reviewed, there was no documentation in the Section's files to include the inspection report or any results of each inspection conducted. Inspection documents for these two cases were only found on an inspector's computer and were not signed. In two other cases, inspection documents were not complete. In one other case, inspection documents were filed in the wrong file. The review team discussed the benefits of maintaining complete and accurate documentation of inspections performed. Based on the review team's findings, the recommendation regarding inspection report documentation will remain open.

The inspection procedures utilized by the Section are generally consistent with the inspection guidance outlined in MC 2800. An inspection report is completed by the inspector which is then reviewed and signed by the Administrator. Supervisory accompaniments are generally being conducted annually for all inspectors. Team inspections were frequently performed for larger and complex licenses and for training purposes.

The team determined that the inspection findings were appropriate and prompt regulatory actions were taken, as necessary. All inspection findings are clearly stated and documented in the report, and reviewed by the Administrator, before being sent to the licensee with the appropriate form or letter detailing the results of the inspection. The Section issues the licensee either a form equivalent to NRC Form 591 or a Notice of Violation (NOV) in letter format detailing the results of the inspection. The Section identifies their equivalent NRC Form 591M as DEQ Form 410-591. When the Section issues an NOV in letter format, the licensee is required by the Section to provide, within 30 days, a written plan of correction for the violations cited.

The Section has a written policy specifying types of violations that may be issued on DEQ Form 410-591. Violations issued on DEQ Form 410-591 are violations of minor safety or environmental concerns, which are at or below the level of significance equivalent to NRC's Severity Level IV violation and may include cited or non-cited type violations. DEQ Form 410-591 is also issued when no violations are identified. If cited violations are issued on DEQ Form 410-591, the Section requests only that the licensee sign a copy of the Form and return it to the Section. In all three cases reviewed for cited violations issued on DEQ Form 410-591, there was no documentation of any corrective actions on the form issued or in the inspection report or in the inspection files. The review team recommends that the State document corrective actions for cited violations issued on DEQ Form 410-591.

The review team noted that the Section has an adequate supply of survey instruments to support the current inspection program. Appropriate, calibrated survey instrumentation such as Geiger Mueller (GM) meters, scintillation detectors, ion chambers, a neutron detector and micro-R meters were observed to be available. The instruments are calibrated at least annually by a commercial calibration service. The Section has a portable multi-channel analyzer and has access to a laboratory at the University of Oklahoma.

Accompaniments of two inspectors were conducted by an IMPEP team member during the week of April 17, 2006. The inspectors were accompanied during inspections of a well logging licensee and a radiography licensee which also included a field inspection. The accompaniments are identified in Appendix C. During the accompaniments, each inspector demonstrated appropriate inspection techniques, knowledge of the regulations, and conducted performance-based inspections. The inspectors were trained, well prepared for the inspection, and thorough in their audits of the licensees' radiation safety programs. Each inspector conducted interviews with appropriate licensee personnel, observed licensed operations, conducted confirmatory measurements, and utilized good health physics practices. Their inspections were adequate to assess radiological health and safety at the licensed facilities.

Based on the IMPEP evaluation criteria, the review team recommends that Oklahoma's performance with respect to the indicator, Technical Quality of Inspections, be found satisfactory.

### 3.4 Technical Quality of Licensing Actions

The review team examined completed licensing casework and interviewed license reviewers for 22 specific licenses. Licensing actions were reviewed for completeness, consistency, proper radioisotopes and quantities, qualifications of authorized users, adequate facilities and equipment, adherence to good health physics practices, financial assurance, operating and emergency procedures, appropriateness of the license conditions, and overall technical quality. The casework was also reviewed for timeliness, use of appropriate deficiency letters and cover letters, reference to appropriate regulations, product certifications, supporting documentation, consideration of enforcement history, pre-licensing visits, supervisory review as indicated, and proper signatures. The casework was checked for retention of necessary documents and supporting data.

The licensing casework was selected to provide a representative sample of licensing actions that were completed during the review period. Licensing actions selected for evaluation included four new licenses, four renewals, nine amendments, and five terminations. The sampling included the following types of licenses: medical (institution, private practice, gamma knife and high dose rate remote afterloader), industrial radiography, well logging, portable and fixed gauges, academic research and development broadscope, veterinary, and a nuclear

pharmacy. A listing of the licensing casework evaluated, with case-specific comments, can be found in Appendix D.

The review team found that the licensing actions were thorough, complete, consistent, and of acceptable quality with health and safety issues properly addressed. Licenses are issued for a ten-year period under a timely renewal system. License tie-down conditions were stated clearly, backed by information contained in the file, and inspectable. Standard license conditions are used. The licensee's compliance history was taken into account when reviewing all renewal applications and major amendments. Terminated licensing actions are well documented, showing appropriate transfer and survey records. The technical staff used NRC's licensing guides; checklist forms; and standard license conditions, as described in NRC's NUREG-1556 series, in their review process. In addition, peer reviews and technical and administrative quality checks are in place and performed on all licensing actions. All licenses are signed by the Administrator.

As of May 26, 2006, there were 95 open licensing cases pending review. Of these, 50 were renewal applications. Twenty-two renewal cases have been pending for one year or more. The Section has developed a prioritization methodology checklist to identify those renewal applications that need to be processed first based on a high, medium, or low risk significance. This checklist is currently in use and goes through a peer review and concurrence process for each licensing action. Renewal applications are given a low priority if the application does not indicate any changes to the existing program and if there have been no major enforcement actions. The Section currently conducts regular licensing meetings during which license reviewers report production since the last meeting, describe current status of ongoing licensing actions, and set production goals for the next month. The review team determined that this prioritization process is adequate.

The review team found that written licensing procedures have not been formally updated. However, programmatic changes in licensing procedures have been handled in weekly staff meetings and periodic licensing meetings which are held once or twice a month.

The review team identified an isolated case in which a well logging license contained two financial assurance license conditions that contradicted each other. These license conditions were also found on previous amendments issued by NRC before Oklahoma became an Agreement State. The Section is in the process of amending this license to reflect the correct financial assurance license condition.

The review team examined the licensees that the Section had determined met the criteria for the increased controls per COMSECY-05-0028. The review team determined that the Section had correctly identified the licensees that require increased controls based on this criteria, and will continue to issue increased controls to any additional licensees, as appropriate. Each licensee was issued a license amendment requiring increased controls in accordance with the time lines established by the Commission in the SRM for COMSECY-05-0028.

Based on the IMPEP evaluation criteria, the review team recommends that Oklahoma's performance with respect to the indicator, Technical Quality of Licensing Actions, be found satisfactory.

### 3.5 Technical Quality of Incident and Allegation Activities

In evaluating the effectiveness of the Section's actions in responding to incidents and allegations, the review team examined the Section's response to the questionnaire relative to

this indicator, evaluated selected incidents reported for Oklahoma in the Nuclear Material Events Database (NMED) against those contained in the Section's files, and evaluated the casework for 14 radioactive materials incidents. A listing of the incident casework examined, with case-specific comments, is included in Appendix E. The review team also evaluated the Section's response to allegations involving radioactive materials, including allegations referred to the State by the NRC.

Written procedures exist for handling incidents. A list of the incident files reviewed is included in Appendix E. When a radioactive materials incident is reported to the Section after office hours, the information is received by a 24-hour "hot-line" operator. The information is recorded on a "Data Complaint Form," and the Administrator is notified. The record of the incident is then entered into the complaint database. When an incident is received directly by the Section, other methods were used to record the incident (e.g., NMED reports). Records of all reported incidents are supposed to be maintained in individual licensee files.

During the review period, the Section received reports of 30 radioactive material incidents. The review team evaluated 14 incidents that required reporting under the NRC criteria. The incidents selected for review included the following categories: overexposure, equipment failure, lost/stolen radioactive material, damaged gauge, contamination event, and medical. Initial responses were prompt and the level of effort was commensurate with the health and safety significance. Initial response and follow-up to incidents and allegations involving radioactive materials are coordinated with the Administrator. The review team found four different files maintained for incidents (the "main" licensee files, the complaint database, the complaint paper files, and the inspectors' files). In most cases, no file had all of the required documents.

The review team found the Section's documentation in response to incidents was often incomplete, and in some cases, the investigation results were missing from the licensee files and had to be found in other locations (e.g., staff personal files). After reviewing the documentation, the review team determined that the Section dispatched inspectors for on-site investigations when appropriate, and took appropriate follow-up actions in all but three cases. The three cases involved a potential overexposure and two instances of loss of material control. The Section contacted the medical licensee after the review to discuss the overexposure incident. The Administrator reported that the licensee's investigation report stated that it was not an actual overexposure, but simply a badge reading error. The two incidents regarding the loss of material control involved improper disposal of iodine-125 seed implants. The Section knew of the incidents, but because of the low activities involved, and the likely wrong disposal locations of the material (land fill, sewer), the Section determined that no follow up was necessary. The review team recommends that the State take measures to ensure proper document and appropriate response, review, enforcement, and follow up of all radioactive materials incidents.

The review team identified several incidents that have not been closed out in NMED, though the review of incident files revealed that inspections and follow-up actions were performed and completed. The open incidents were discussed with the Administrator, who agreed to contact Idaho National Laboratory (INL) to complete and close the identified incidents. Except as noted above, the team found that the NMED database accurately reflected the information contained in the Section's files. Overall, the review team determined that the Section reported incidents to the NRC Headquarters Operations Center in a timely manner and, in most cases, appropriate and timely follow-up actions were performed.

The review team also evaluated the Section's response to allegations involving radioactive material. The review team evaluated the Section's response to 17 allegations, including 1 that was referred to the Section by the NRC during the review period. The Section has adequate procedures for responding to allegations. These procedures were reviewed and discussed with the Administrator and staff. As with the incidents, when an allegation is reported to the Section after office hours, the information is received by a 24-hour "hot-line" operator. The information is recorded on a Data Complaint Form, and the Administrator is notified.

The review of the complaint files indicated that the Section generally took prompt and appropriate action in response to the concerns raised, and when able, the Section got back to the allogger with the results of the investigation. The casework reviewed indicated that alloggers' identities are protected, and the allegations were appropriately closed. However, the team found that the initial contact information and the investigation documentation was maintained in several locations, and in some cases the follow up lacked proper documentation. The review team determined that appropriate action was taken in response to the concerns in all but one case. In this case, the allogger reported that employees were handling radioactive material without dosimetry. The Section performed an initial investigation, but was not able to substantiate the allegation. The Section referred the complaint to the Division's criminal investigation section. The criminal investigation section declined the case, but did not tell the Section of the decision. The Section did not follow up on the complaint; therefore, the allegation was never closed. This isolated incident was discussed with the Administrator, and he agreed that a procedure for future referrals to the criminal investigation section will be established. The review team recommends that the State take measures to ensure proper documentation and appropriate follow up and closure of all allegations involving radioactive material.

Based on the IMPEP evaluation criteria, the review team recommends that Oklahoma's performance with respect to the indicator, Technical Quality of Incident and Allegation Activities, be found satisfactory, but needs improvement.

#### 4.0 NON-COMMON PERFORMANCE INDICATORS

IMPEP identifies four non-common performance indicators to be used in reviewing Agreement State Programs: (1) Compatibility Requirements; (2) Sealed Source and Device Evaluation Program; (3) Low-Level Radioactive Waste Disposal Program; and (4) Uranium Recovery Program. Only the first non-common performance indicator was applicable to this review.

##### 4.1 Compatibility Requirements

###### 4.1.1 Legislation

Along with the Section's response to the questionnaire, the staff provided the review team with the opportunity to review copies of legislation that affects the radiation control program. Oklahoma became an Agreement State on September 29, 2000. Legislative authority was granted in 1999 (Oklahoma Statutes, Title 27A) in the Oklahoma Environmental Quality Act, the Oklahoma Environmental Quality Code, and the Oklahoma Radiation Management Act. The Department of Environmental Quality is designated as the State's radiation control agency. The review team noted that the legislation had not changed since the Agreement was signed.

###### 4.1.2 Program Elements Required for Compatibility

The State's regulations for radiation management are located in Chapter 410 of the Oklahoma Administrative Code, Title 252, and apply to all sources of radiation except materials subject to regulation under the NRC or a diagnostic x-ray facility regulated by the Oklahoma Department of Public Health. Oklahoma regulations require a license for all persons who receive, possess, use, transfer, own, handle, dispose, store, house, or acquire sources of radiation, including a limited number of naturally occurring and accelerator-produced radionuclides.

Oklahoma adopts regulations for Agreement materials by reference, and the Oklahoma regulations initially became effective at the time of the Agreement. During the 2002 legislative session, the Oklahoma Legislature adopted by reference the NRC regulations affecting the Agreement, as published on January 1, 2001. The amended regulations became effective on June 13, 2002. The review team found that adopting regulations by reference allows the State to implement regulations quickly and avoid potential compatibility conflicts. Also, it reduces confusion for reciprocity licensees and multi-State licensees.

The Administrator has the responsibility for maintaining the Oklahoma Radiation Management Regulations compatible with the NRC regulations. The rule adoption process involves hearings before the Council, which recommends changes to the Board. The Board approves or disapproves the proposed amendments. If approved by the Board, the State Legislature considers the amendments during their next session. The Governor has the authority to veto proposed amendments. The Council usually considers rules in the Summer or Fall, the Board passes them in the Winter, and they go into effect in May or June of the following year. The State does have the ability to use emergency regulations. Emergency regulations can be effected immediately with the Governor's signature, but they are effective only until the end of the next legislative session. Oklahoma regulations are not subject to "sunset" laws.

The review team found that the public and other interested parties are offered an opportunity to comment on proposed regulation changes. The review team noted that draft regulations are sent to the NRC for review and comment.

The review team evaluated the response to the questionnaire, reviewed the status of regulations required to be adopted by the State under the Commission's adequacy and compatibility policy and verified the adoption of regulations with data obtained from STP's State Regulation Status Data Sheet.

At the time of the review, the State had no overdue regulations required for compatibility. The Section will need to address the following regulations in upcoming rulemaking or by adopting alternate legally binding requirements:

- "Financial Assurance for Material Licensees," 10 CFR Parts 30, 40, and 70 amendments (65 FR 57327) that became effective December 3, 2003. This amendment is due for Agreement State implementation by December 3, 2006.
- "Compatibility with IAEA Transportation Safety Standards and Other Transportation Safety Amendments," 10 CFR Part 71 amendment (69 FR 3697) that became effective October 1, 2004. This amendment is due for Agreement State implementation by October 1, 2007.
- "Security Requirements for Portable Gauges Containing Byproduct Material," 10 CFR Part 30 amendment (70 FR 2001) that became effective July 11, 2005. This amendment is due for Agreement State implementation by July 11, 2008.

- “Medical Use of Byproduct Material — Recognition of Specialty Boards,” 10 CFR Part 35 amendments (70 FR 16336, 71 FR 1926) that became effective April 29, 2005. This amendment is due for Agreement State implementation by April 29, 2008.

The review team noted that the State is using license conditions in lieu of adopting regulations to impose the requirements of NRC Order EA-05-090 on affected licensees in their jurisdiction. NRC Order EA-05-090 requires licensees possessing certain radioactive materials in risk significant quantities to implement increased controls to reduce the risk of the unauthorized use of these materials.

Based on IMPEP evaluation criteria, the review team recommends that Oklahoma’s performance with respect to the indicator, Compatibility Requirements, be found satisfactory.

## 5.0 SUMMARY

As noted in Sections 3 and 4 above, the review team found Oklahoma’s performance to be satisfactory, but needs improvement, for the indicator, Technical Quality of Incident and Allegation Activities, and satisfactory for all remaining performance indicators. The review team made three recommendations regarding the performance of the Oklahoma Agreement State Program and recommends that one recommendation from the 2002 IMPEP review remain open. Accordingly, the review team recommends that the Oklahoma Agreement State Program be found adequate to protect public health and safety and compatible with NRC’s program. Based on the results of the current IMPEP review, the review team recommends that the next full IMPEP review take place in approximately four years.

Below are the recommendations, as mentioned earlier in the report, for evaluation and implementation, as appropriate, by the State.

1. The review team recommends that all inspections be fully documented, and that license files be complete and accurate. (From the 2002 IMPEP report) (Section 3.3)
2. The review team recommends that the State document corrective actions for cited violations issued on DEQ Form 410-591. (Section 3.3)
3. The review team recommends that the State take measures to ensure proper document and appropriate response, review, enforcement, and follow up of all radioactive materials incidents. (Section 3.5)
4. The review team recommends that the State take measures to ensure proper documentation and appropriate follow up and closure of all allegations involving radioactive material. (Section 3.5)

## LIST OF APPENDICES AND ATTACHMENT

Appendix A	IMPEP Review Team Members
Appendix B	Oklahoma Organization Charts
Appendix C	Inspection Casework Reviews
Appendix D	License Casework Reviews
Appendix E	Incident Casework Reviews
Attachment	August 7, 2006 E-mail from Mike Broderick Oklahoma's Response to Draft IMPEP Report

## APPENDIX A

### IMPEP REVIEW TEAM MEMBERS

<b>Name</b>	<b>Area of Responsibility</b>
Sheri Minnick, Region I	Team Leader Technical Staffing and Training
Andrew Mauer, STP	Status of Materials Inspection Program
Joshua Daehler, MA	Technical Quality of Inspections
Roberto Torres, RIV	Technical Quality of Licensing Actions
Linda McLean, RIV	Technical Quality of Incident and Allegation Activities Inspector Accompaniments
Sandra Lai, STP	Compatibility Requirements

APPENDIX B

OKLAHOMA ORGANIZATION CHARTS

ADAMS ACCESSION NO.: ML061520117

APPENDIX C

INSPECTION CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY.

File No.: 1  
Licensee: Big State X-Ray, Inc. License No.: OK-21144-02  
Inspection Type: Routine, Unannounced Priority: 1  
Inspection Date: 4/8/05 Inspectors: ST and MI

File No.: 2  
Licensee: Cardinal Health License No.: OK-19583-02MD  
Inspection Type: Routine, Unannounced Priority: 2  
Inspection Date: 2/23/05 Inspector: MI

File No.: 3  
Licensee: Big State X-Ray, Inc. License No.: OK-21144-02  
Inspection Type: Routine, Unannounced Priority: 1  
Inspection Date: 4/19/06 Inspector: KS

File No.: 4  
Licensee: Superior Well Services, Ltd. License No.: OK-19505-01  
Inspection Type: Routine, Unannounced Priority: 3  
Inspection Date: 4/18/06 Inspector: JF

Comment:

Two cited Severity Level IV violations were issued on DEQ Form 410-591 (equivalent of NRC's Form 591) and corrective actions were not documented.

File No.: 5  
Licensee: KXR Inspection, Inc. License No.: TX L01074  
Inspection Type: Reciprocity, Unannounced Priority: 1  
Inspection Date: 1/17/06 Inspector: KS

File No.: 6  
Licensee: PathFinder Energy Services License No.: TX L05236  
Inspection Type: Reciprocity, Unannounced Priority: 1  
Inspection Date: 4/28/05 Inspector: JF

File No.: 7  
Licensee: The University of Oklahoma License No.: OK-07466-05  
Inspection Type: Routine, Unannounced Priority: 3  
Inspection Date: 5/3/06 Inspectors: JM and MI

Comments:

- a. The inspection report indicates the wrong priority and program code and was not signed and dated by Administrator.
- b. The inspection documents were not included in the Inspector's file.

File No.: 8

Licensee: The Rosel Company  
Inspection Type: Initial, Unannounced  
Inspection Dates: 4/1/04 and 4/23/04

License No.: OK-31009-01  
Priority: 3  
Inspector: JF

Comment:

This initial inspection was conducted one year and seven months after the license was issued, a period exceeding normal initial inspection of twelve months after issuance of the license.

File No.: 9

Licensee: Mercy Health Center  
Inspection Type: Initial, Unannounced  
Inspection Date: 10/17/05

License No.: OK-07018-03  
Priority: 2  
Inspector: MI

Comment:

All inspection documents were filed into wrong license number files.

File No.: 10

Licensee: Nextep Technologies, Inc.  
Inspection Type: Initial, Unannounced  
Inspection Date: 11/29/05

License No.: OK-31044-01  
Priority: 5  
Inspector: JF

File No.: 11

Licensee: Heart and Vascular Center  
Inspection Type: Initial, Announced  
Inspection Date: 4/27/06

License No.: OK-31070-01  
Priority: 5  
Inspector: JM

File No.: 12

Licensee: Fleet Services of Tulsa, Inc  
Inspection Type: Routine, Unannounced  
Inspection Date: 4/10/06

License No.: OK-27486-01  
Priority: 5  
Inspector: KS

Comment:

- a. Two cited Severity Level IV violations were issued on DEQ Form 410-591 and corrective actions were not documented. The Form was return signed by the licensee with written in corrective actions, however, the Section only requires that the form be signed and there is no mechanism for the Section to depend on the licensee to be responsible for documenting the corrective actions when DEQ Form 410-591 is issued.
- b. One cited violation for exceeding public dose rate limits was issued on DEQ Form 410-591 and such type of violation was not identified by the Section's written policy as a type of violation that may be issued on DEQ Form 410-591.

File No.: 13

Licensee: General Monitors, Inc.  
Inspection Type: Special, Announced  
Inspection Date: 5/5/04

License No.: OK-19956-01  
Priority: 5  
Inspectors: JM and KS

Comment:

All inspection documents were missing from the Section's files. Unsigned inspection documents were viewed from an inspector's computer.

File No.: 14

Licensee: Turner Brothers Trucking, LLC  
Inspection Type: Routine, Unannounced  
Inspection Date: 11/14/03

License No.: OK-27056-01  
Priority: 5  
Inspector: JM

Comment:

- a. All inspection documents were missing from the Section's files. Unsigned inspection documents were viewed from an inspector's computer.
- b. One cited violation was issued on DEQ Form 410-591 and corrective action was not documented.

#### INSPECTOR ACCOMPANIMENTS

The following inspector accompaniments were performed prior to the on-site IMPEP review:

Accompaniment No.: 1

Licensee: Big State X-Ray, Inc.  
Inspection Type: Routine, Unannounced  
Inspection Date: 4/19/06

License No.: OK-21144-02  
Priority: 1  
Inspector: KS

Accompaniment No.: 2

Licensee: Superior Well Services, Ltd.  
Inspection Type: Routine, Unannounced  
Inspection Date: 4/18/06

License No.: OK-19505-01  
Priority: 3  
Inspector: JF

## APPENDIX D

### LICENSE CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY.

File No.: 1  
Licensee: Tulsa Equipment Manufacturing  
Type of Action: Renewal  
Date Issued: 7/25/05  
License No.: OK-27484-01  
Amendment No.: 03  
License Reviewer: JF

File No.: 2  
Licensee: Elliott Construction Company, Inc.  
Type of Action: Renewal  
Date Issued: Pending  
License No.: OK-26843-01  
Amendment No.: 04  
License Reviewer: PC

File No.: 3  
Licensee: Baker Hughes Oilfield Operations, Inc.  
Type of Action: Amendment  
Date Issued: 11/9/05  
License No.: OK-02964-03  
Amendment No.: 05  
License Reviewer: JF

Comment:

License condition 15 requires the licensee to maintain a certificate of financial assurance or funding plan while license condition 16 requires the licensee to maintain possession limits below financial assurance limits. The license conditions contradict each other.

File No.: 4  
Licensee: Mercy Memorial Hospital  
Type of Action: Amendment  
Date Issued: 3/6/06  
License No.: OK-00957-02  
Amendment No.: 27  
License Reviewer: PC

File No.: 5  
Licensee: University of Oklahoma  
Type of Action: Amendment  
Date Issued: 12/23/05  
License No.: OK-07466-05  
Amendment No.: 41  
License Reviewer: PC

File No.: 6  
Licensee: Wynnewood Refining Company  
Type of Action: New  
Date Issued: 8/4/05  
License No.: OK-12636-11  
Amendment No.: N/A  
License Reviewer: JF

File No.: 7  
Licensee: Moore Medical Center, LLC  
Type of Action: New  
Date Issued: 7/15/05  
License No.: OK-31054-01  
Amendment No.: N/A  
License Reviewer: KS

File No.: 8  
Licensee: St. John Sapulpa, Inc.  
Type of Action: Termination  
Date Issued: 11/9/04  
License No.: OK-15500-01  
Amendment No.: 14  
License Reviewer: JF

File No.: 9

Licensee: Equine Medical Associates, Inc.  
Type of Action: Renewal  
Date Issued: Pending

License No.: OK-27487-01  
Amendment No.: 01  
License Reviewer: KS

File No.: 10

Licensee: University of Oklahoma Health Sciences Center  
Type of Action: Amendment  
Date Issued: 3/7/06

License No.: OK-03176-05  
Amendment No.: 18  
License Reviewer: PC

File No.: 11

Licensee: Cutanix Corporation  
Type of Action: Termination  
Date Issued: 3/24/05

License No.: OK-31013-01  
Amendment No.: 01  
License Reviewer: KS

File No.: 12

Licensee: Silver Star Construction Company  
Type of Action: Termination  
Date Issued: 8/16/03

License No.: OK-27012-01  
Amendment No.: 02  
License Reviewer: PB

File No.: 13

Licensee: Gold Perforating Company, Inc.  
Type of Action: Termination  
Date Issued: 3/6/03

License No.: OK-12733-04  
Amendment No.: 02  
License Reviewer: JF

File No.: 14

Licensee: Tul-Ray, LLC  
Type of Action: Termination  
Date Issued: 10/24/05

License No.: OK-26953-02  
Amendment No.: 04  
License Reviewer: JF

File No.: 15

Licensee: Big State X-Ray, Inc.  
Type of Action: Renewal, radiography  
Date Issued: 5/19/04

License No.: OK-21144-02  
Amendment No.: 01  
License Reviewer: KS

File No.: 16

Licensee: The Rosel Company  
Type of Action: New  
Date Issued: 8/29/02

License No.: OK-31009-01  
Amendment No.: N/A  
License Reviewer: PB

File No.: 17

Licensee: Hillcrest Medical Center  
Type of Action: Amendment  
Date Issued: 12/16/05

License No.: OK-09206-03  
Amendment No.: 54  
License Reviewer: JF

File No.: 18

Licensee: Mercy Health Center

Type of Action: New

Date Issued: 5/25/05

License No.: OK-07018-03

Amendment No.: N/A

License Reviewer: KS

File No.: 19

Licensee: Capital X-Ray Services, Inc.

Type of Action: Amendment

Date Issued: 11/14/05

License No.: OK-11114-02

Amendment No.: 06

License Reviewer: PB

File No.: 20

Licensee: St. Anthony Hospital

Type of Action: Amendment

Date Issued: 3/7/06

License No.: OK-01428-03

Amendment No.: 53

License Reviewer: PC

File No.: 21

Licensee: Cancer Treatment Centers of America

Type of Action: Amendment

Date Issued: 4/18/05

License No.: OK-27041-01

Amendment No.: 18

License Reviewer: PC

File No.: 22

Licensee: Cardinal Health

Type of Action: Amendment

Date Issued: 8/3/05

License No.: OK-19583-02MD

Amendment No.: 08

License Reviewer: PC

## APPENDIX E

### INCIDENT CASEWORK REVIEWS

NOTE: CASEWORK LISTED WITHOUT COMMENT ARE INCLUDED FOR COMPLETENESS ONLY.

File No.: 1

Licensee: Cardinal Health

Date of Incident: 1/5/06

Investigation Date: 1/19/06

License No.: OK-23359-02MD

Incident Log No.: OK060003 (NMED)

Type of Incident: Medical

Type of Investigation: Phone/30-day report

File No.: 2

Licensee: Midwest Inspection Services

Date of Incident: 8/29/005

Investigation Date: N/A

License No.: OK-35-27005-01

Incident Log No.: OK05008 (NMED)

Type of Incident: Overexposure

Type of Investigation: On-site

File No.: 3

Licensee: Deaconess Health System, LLC

Date of Incident: 11/17/05

Investigation Date: N/A

License No.: OK-21106-01

Incident Log No.: OK050009 (NMED)

Type of Incident: Lost/stolen material

Type of Investigation: N/A

Comment:

No investigation was conducted.

File No.: 4

Licensee: VIA Christi Regional Medical Center

Date of Incident: 3/1/06

Investigation Date: 3/3/06

License No.: OK-14046-02

Incident Log No.: OK060004 (NMED)

Type of Incident: Medical

Type of Investigation: Phone/30-day report

File No.: 5

Licensee: Oklahoma University Medical Center

Date of Incident: 5/5/03

Investigation Date: N/A

License No.: OK-21035-01

Incident Log No.: OK030410 (NMED)

Type of Incident: Medical

Type of Investigation: Phone/30-day report

File No.: 6

Licensee: Tulsa Gamma Ray

Date of Incident: 2/02/05

Investigation Date: N/A

License No.: OK-17178-02

Incident Log No.: OK050001 (NMED)

Type of Incident: Equipment failure

Type of Investigation: N/A

Comment:

Event report was not in file; therefore, no follow up occurred at next routine inspection.

File No.: 7

Licensee: Oklahoma Cardiovascular Associates

Date of Incident: N/A

Investigation Date: N/A

License No.: OK-27476-01

Incident Log No.: OK060001

Type of Incident: Overexposure

Type of Investigation: N/A

Comment:

No additional information available for this event.

File No.: 8

Licensee: Conoco-Phillips Company

Date of Incident: 7/21/03

Investigation Date: 7/21/03

License No.: OK-07402-11

Incident Log No.: OK030607 (NMED)

Type of Incident: Fire

Type of Investigation: Phone

File No.: 9

Licensee: St. Francis Hospital

Date of Incident: 1/13/03

Investigation Date: N/A

License No.: OK-07136-01

Incident Log No.: OK30001

Type of Incident: Lost/stolen material

Type of Investigation: N/A

Comment:

No follow up to this event occurred.

File No.: 10

Licensee: Oklahoma Testing Labs

Date of Incident: 8/9/03

Investigation Date: 8/9/03

License No.: OK-10577-02

Incident Log No.: OK030007 (NMED)

Type of Incident: Lost/stolen material

Type of Investigation: Phone

File No.: 11

Licensee: Abiotic Enterprises, Inc.

Date of Incident: 6/2/03

Investigation Date: 6/3/03

License No.: OK-27607-01

Incident Log No.: OK030006 (NMED)

Type of Incident: Lost/stolen material

Type of Investigation: On-site

File No.: 12

Licensee: Iris NDT

Date of Incident: 11/19/05

Investigation Date: 11/27/05

License No.: OK-30426-01

Incident Log No.: OK050768 (NMED)

Type of Incident: Overexposure

Type of Investigation: On-site

File No.: 13

Licensee: Iris NDT

Date of Incident: 10/29/05

Investigation Date: 11/02/05

License No.: OK-30426-01

Incident Log No.: OK050727 (NMED)

Type of Incident: Lost/stolen material

Type of Investigation: Phone

File No.: 14

Licensee: Pro Technics

Date of Incident: 7/17/04

Investigation Date: 9/10/04

License No.: OK-26928-02

Incident Log No.: 300-00-0042692

Type of Incident: Contamination

Type of Investigation: Phone/On-site

ATTACHMENT

August 7, 2006 E-mail from Mike Broderick  
Oklahoma's Response to Draft IMPEP Report

ADAMS: ML062210014

**Agenda for Management Review Board Meeting  
August 23, 2006, 1:00 p.m. - 2:30 p.m. (EST), OWFN-3-B6**

1. Announcement of public meeting, request for members of the public to indicate they are participating and their affiliation.
2. MRB Chair convenes meeting. Introduction of MRB members, review team members, State representatives, and other representatives participating through telephone bridge. (Organization of Agreement States (OAS) Liaison is Dennis O'Dowd from New Hampshire.)
3. Consideration of the Oklahoma IMPEP Report.
  - A. Presentation of Findings Regarding Oklahoma Program and Discussion.
    - Technical Staffing and Training
    - Status of Materials Inspection Program
    - Technical Quality of Inspections
    - Technical Quality of Licensing Actions
    - Technical Quality of Incident and Allegation Activities
    - Compatibility Requirements
  - B. IMPEP Team Recommendations.
    - Adequacy and Compatibility Ratings
    - Recommendation for Next IMPEP Review
  - C. MRB Consultation/Comments on Issuance of Report.
4. Request for comments from Oklahoma representatives, OAS Liaison and State IMPEP Team Member. (State IMPEP team member is Joshua Daehler of Massachusetts.)
5. Adjournment.

Invitees:	Martin Virgilio, OEDO	Sheri Minnick, RI
	Janet Schlueter, STP	Linda McLean, RIV
	Karen Cyr, OGC	Sandra Lai, STP
	Jack Strosnider, NMSS	Roberto Torres, RIV
	Dennis O'Dowd, NH	Andrew Mauer, STP
	Mike Broderick, OK	Joshua Daehler, MA
	Aaron McCraw, STP	Richard Struckmeyer, NMSS
	Osiris Suirano, STP	Andrea Kock, OEDO
	Dennis Rathbun, STP	

**ENCLOSURE 2**